

TABLE OF CONTENTS

Vol. 54 Nos. 1-3 1992

*Special Issue on Dynamics and Evolution of Minor
Bodies with Galactic and Geological Implications*

Preface	vii
FRED L. WHIPPLE / The Activities of Comets Related to their Aging and Origin	1
JOHN J. MATESE and PATRICK G. WHITMAN / A Model of the Galactic Tidal Interaction with the Oort Comet Cloud	13
MAURI J. VALTONEN, JIA-QING ZHENG, and SEppo MIKKOLA / Origin of Oort Cloud Comets in the Interstellar Space	37
M. E. BAILEY / Origin of Short-Period Comets	49
H. RICKMAN / Structure and Evolution of the Jupiter Family	63
CH. FROESCHLÉ and C. FROESCHLÉ / Collective Resonant Phenomena on Small Bodies in the Solar System	71
V. V. EMEL'YANENKO / Dynamics of Periodic Comets and Meteor Streams	91
P. B. BABADZHANOV and YU. V. OBRUBOV / Evolution of Short-Period Meteoroid Streams	111
ICHIRO HASEGAWA / Historical Variation in the Meteor Flux as Found in Chinese and Japanese Chronicles	129
MICHAEL R. RAMPINO and KEN CALDEIRA / Episodes of Terrestrial Geologic Activity during the Past 260 Million Years: A Quantitative Approach	143
S. YABUSHITA / Periodicity in the Crater Formation Rate and Implications for Astronomical Modeling	161
S. V. M. CLUBE / The Fundamental Role of Giant Comets in Earth History	179
R. DVORAK / Progress in the Elliptic Restricted 3-Body Problem: Asteroids in the 2/1, 3/1 and 1/1 Resonance	195
V. ZAPPALÀ and A. CELLINO / Asteroid Families: Recent Results and Present Scenario	207
T. INAGAKI, S. YABUSHITA, and K. WADA / The Ultraviolet Spectra of Carbonaceous Chondrites	229
SYUZO ISOBE, TOSHIHIKO TANABE, and MOTOKAZU NOGUCHI / Solar Dust Ring Observation at the Total Solar Eclipse in Mexico	233

TABLE OF CONTENTS

H. KOSAI / Short-Period Comets and Apollo-Amor-Aten Type Asteroids in View of Tisserand Invariant	237
A. SATHEESH KUMAR and SYUZO ISOBE / The Charging Processes of Dust Particles and the Effects of Lorentz Scattering in the Circum-Solar Dust Band	241
YASUNORI MIURA and TOSHIO KATO / Shock Metamorphism on the Moon	245
YASUNORI MIURA, TOSHIO KATO, and MASASHI IMAI / Evidence of Earth Catastrophe by Anomalous Shocked Quartz at the K/T Boundary	249
TAKESHI NAKAMURA and JUNZO YOSHIDA / Hill Stability of the Planar Three-Body Problem: General and Restricted Cases	255
TSUKO NAKAMURA and MAKOTO YOSHIKAWA / Invisible Comets on Evolutionary Track of Short-Period Comets	261
IRINA V. PETROVSKAYA / The Evolution of Groups of Very Light Stars in the Galaxy	267
T. TSUJII / Near-Parabolic Cometary Flux in the Outer Solar System	271
K. WADA, T. INAGAKI, and S. YABUSHITA / Organic Models of Interstellar Grains	275
NORIAKI WATANABE / Numerical Investigation on the Orbital Evolution of 1:2 Resonant Asteroids between Jupiter and Saturn	279
MAKOTO YOSHIKAWA / Numerical Investigation of Motions of Resonant Asteroids in the Three-Dimensional Space	287
MANABU YUASA / Candidates for Families in Apollo-Amor Type Asteroids	291

Vol. 54 No. 4 1992

MARTIN OSTOJA-STARZEWSKI and JAMES M. LONGUSKI / Stochastic Hill's Equations for the Study of Errant Rocket Burns in Orbit	295
JANIS BRITALS / Canonical Theory of Perturbations Using Eccentric Anomaly as Independent Variable	305
J.V. BREAKWELL and F.L. JANSSENS / On the Transverse Vibrations of a Revolving Tether	317
ERNESTO A. LACOMBA and ERNESTO PÉREZ-CHAVELA / A Compact Model for the Planar Rhomboidal 4-Body Problem	343
R.H. SMITH and V. SZEBEHELY / Chaotic Motion and the Graziani-Black Criterion	357
M.S. GILTHORPE and P. MOORE / A Combined Theory for Zonal Harmonic and Resonance Perturbations of a Near-Circular Orbit with Applications to Cosmos 1603 (1984-106A)	363
VALERI V. KOZLOV and ALEXANDER O. HARIN / Kepler's Problem in Constant Curvature Spaces	393

